

REMARKS

Claims 1-42 are currently pending in the subject application and are presently under consideration. Claims 1, 17, 35, and 39 have been amended as shown on pp. 3-9 of the Reply. In addition, the specification has been amended as indicated on pg. 2. Applicant's representative thanks Examiner for the courtesies extended during the telephone interview of April 13, 2007, during which several features of the present invention and their relationship with the cited references was discussed.

Favorable reconsideration of the subject patent application is respectfully requested in view of the comments and amendments herein.

I. Rejection of Claims 1, 17, 35, and 39 Under 35 U.S.C. §112

Claims 1, 17, 35, and 39 stand rejected under 35 U.S.C. §112, second paragraph, as reciting, "...at least one of user characteristics, context, or prior arrangements made by the/a user ...". Further, Claims 1 and 39 stand rejected under 35 U.S.C. §112, second paragraph, as reciting, the limitation "the user" in lines 11 and 7, respectfully. There is insufficient antecedent basis for this limitation in the claim. Claims 1, 17, 35, and 39 have been amended herein to overcome these rejections; accordingly, the rejections should be withdrawn.

II. Rejection of Claims 1-11 and 14-40 Under 35 U.S.C. §103(a)

Claims 1-11 and 14-40 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Pub. No. 2002/0120921 (Coburn) in view of U.S. Patent No. 5,551,030 (Linden) in further view of US Patent Publication No. 2005/0119871 (Deffler). Reconsideration and allowance of claims 1-7, 13-15 and 17-18 is respectfully requested for at least the following reasons. Neither Coburn, Linden, nor Deffler, individually or in combination, teach or suggest all the claim limitations of the subject invention.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or

motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) ***must teach or suggest all the claim limitations***. See MPEP §706.02(j) (emphasis added). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. See *In re Vaack*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicant's invention relates to a system and methodology that facilitates automatic generation of control code that utilizes function objects within Human-Machine Interfaces (HMI). The subject matter as claimed thus enables an industrial system or process operator, not skilled in computer programming but familiar with the industrial system or process, to customize control code necessary for industrial automation. The system employs artificial intelligence techniques to further simplify the process by interrogating a processing device and/or arrange generated HMI object(s) to represent a system and/or process. The inventive system can also utilize artificial intelligence techniques to generate an arrangement of HMI objects based on user state and context. To this end, amended independent claim 1 (and similarly amended independent claims 17, 35, and 39) recites *a component that utilizes artificial intelligence techniques to generate an arrangement of the HMI objects based upon at least one of user characteristics, user context, or prior arrangements made by a user*. Use of artificial intelligence techniques is disclosed throughout applicant's specification, providing ample support for independent claims 1, 17, 35, and 39. (See e.g. Specification pg. 5, ll. 1-15; pg. 8, ll. 5-20; pg. 9, ll. 18-pg. 10, ll. 1-4; pg. 15, ll. 1-9; pg. 19, ll. 12-26; pg. 20, ll. 27-30; and pg. 21, ll. 22-25.) User characteristics are described as things such as security clearance, location, and identity, for example (See e.g. pg. 19, ll. 22-26). Coburn, either alone or in combination with Linden *et al.* and/or Deffler, does not disclose or suggest these exemplary features of the claimed subject matter.

Coburn relates generally to system software for managing the design, simulation, implementation, and maintenance of a manufacturing process. Coburn, however, does

not disclose using artificial intelligence techniques to generate an arrangement of HMI objects, much less *generating an arrangement of HMI objects based on user characteristics, user context, and prior arrangements made by a user*, as Examiner contends (See Office Action dated February 1, 2007). Examiner has cited three portions of Coburn as disclosing a processor (Coburn ¶ [0719]), rules (Coburn ¶ [[0734]), and customization (Coburn ¶ [0300]), and maintains that they equate to applicant's "component," "artificial intelligence techniques," and "based on at least one of user characteristics, user context, and prior arrangements made by a user," respectively (See Office Action dated February 1, 2007). Examiner has simply plucked these elements from their contextual surroundings when in reality the three cited passages of Coburn are remote and unrelated. (To exemplify, the rules and customization cites are separated by over 400 paragraphs of text with no hint of a cross reference between the sections.) In contrast, applicant's independent claim 1 recites using *artificial intelligence techniques to generate an arrangement of the HMI objects based upon at least one of user characteristics, user context, or prior arrangements made by a user*. That is, the artificial intelligence techniques are used to perform the arrangements. At best, Coburn may provide two ingredients buried in an enormous document, whereas independent claim 1 discloses a full recipe, complete with instructions and guidance. The rules disclosed in Coburn are not used to generate an arrangement of HMI objects, nor are they used to "customize" or "parameterize," to use the language of Coburn (See e.g. Coburn ¶¶ [0731], [0300]), they perform a completely different function.

The same argument applies equally to independent claims 17, 35, and 39, and associated dependent claims. Therefore, one having ordinary skill in the art would not understand Coburn to disclose nor make obvious the subject claims. Furthermore, Linden and Deffler are similarly deficient with respect to independent claims 1, 17, 35, and 39. Neither document discloses using an artificial intelligence technique to generate an arrangement of HMI objects. In view of the foregoing, it is readily apparent that the rejection of independent claims 1, 17, 35, and 39, and associated dependent claims, should be withdrawn.

III. Rejection of Claims 12-13 and 41-42 Under 35 U.S.C. §103(a)

Claims 12-13 and 41-42 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Coburn in view of Linden in further view of Deffler and U.S. Patent Pub. No.: 2004/0260518 (Polz). Withdrawal of the rejection is requested for at least the following reason. Claims 12-13 and 41-42 depend from independent claims 1, and 39 respectively, and Polz does not remedy the aforementioned deficiencies with respect to independent claims 1 and 39. Accordingly, this rejection should be withdrawn.

CONCLUSION

The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063.

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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